What is claimed is:

1. In the forming of copper interconnects for an integrated circuit, a method for dissociating copper oxides from copper surfaces, comprising the steps of:

providing a substrate with an insulating layer formed over said substrate;

forming an interconnect pattern in said insulating layer;

conformally depositing a barrier layer along said interconnect pattern;

forming copper interconnects in said interconnect pattern; and

providing a supercritical fluid over said copper interconnect pattern in said insulating layer.

- 2. The method of claim 1, wherein treating the supercritical fluid comprises changing the oxidation state of copper to dissociate the copper oxides from the copper surfaces.
- 3. The method of claim 1, further comprising providing a supercritical fluid selected from the group consisting of oxidizing agents and reducing agents, and changing the oxidation state of the metal with the supercritical fluid.
- 4. The method of claim 1, further comprising the step of baking an antireflective coating layer, whereby said antireflective coating layer is removed.
- 5. The method of claim 4, wherein said baking step is at a temperature between about 350-400°C for about 30-60 seconds.

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- 6. The method of claim 1, wherein said barrier layer is deposited using plasma enhanced chemical vapor deposition, thermal chemical vapor deposition or atomic layer deposition.
- 7. The method of claim 1, wherein said insulating layer includes a low-k dielectric material.
 - 8. The method of claim 1, wherein said barrier layer includes a dielectric material.
- 9. The method of claim 8, wherein said barrier layer includes a dielectric material selected from the group consisting of SiC, SiCN, SiCO and SiN.

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